



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0016

JOHN ELIAS BALDACCI
GOVERNOR

DAVID A. COLE
COMMISSIONER

June 29, 2004
Subject: Bucksport, Orland, and
Dedham
Project No: 011003.30; STP-
1187(600)X; & STP-1132(900))X
Bid Amendment No. 2

Dear Sir/Ms.:

Please make the following change to your Bid Package:

Delete in its entirety the "Schedule of Items" six pages total, dated 040611 & 040624, and replace with the new attached "Schedule of Items", dated 040628 seven pages total.

Delete the first page of the "Contract Agreement Offer & Award" (Both Copies) completion date of **July 1, 2005**, and replace with the new attached "Contract Agreement Offer & Award" (both copies) completion date of **September 2, 2005**.

In pen and ink delete all references to "**Item No. 304.102 Aggregate Sub base Course Gravel Pit Measure**", and replace with the following:
"Item No. 304.10- Aggregate Sub base course."

On "Special Provision Section 107 Time (Contract Time)", Delete completion date of **July 1, 2005** and replace with a completion date of **September 2, 2005**.

Make this change in pen and ink.

Add the attached three pages entitled "Special Provision Section 502 Annular Space Grouting", dated June 29, 2004.

Add the attached four pages entitled "Special Provision Section 603 Culvert Sliplining (Plastic Pipe)" dated June 29, 2004.



PRINTED ON RECYCLED PAPER

The Department has received the following Questions:

Q) Is there any incidental ditching, inslope work or backing up of the pavement edges?

R) *No*

Q) The 60" Opt III culvert at Colby Brook, station 413+50 is to be slipped through the old culvert and sealed. What is the specification for performing this work?

R) *See amendment for addition of Special Provision 603 culvert Slip-lining and Special Provision 502 annular Space Grouting*

Q) On Pin 11329.00, the shoulders call for gravel shim and not shoulder rehabilitation. How is the shoulder preparation to be paid for?

R) *The contractor will be required to remove existing undesirable material from existing shoulders prior to placing gravel. This work shall be considered incidental to item #304.10.*

Q) The slope work from station 408+00 to 413+25 which includes large quantities of excavation and slope work and also at the reconstruction of a drive way at station 412+30. Is the only pay item for this work Item # 211.40 New Ditch?

R) *The excavation of the driveway at station 412+30+- shall be done with rental items. The ditching and slope work from station 408+00 to 413+25 shall be paid under item #211.40 new Ditch.*

Q) Are there any cross sections for the following areas? 444+50 to 454+00, 550+00 to 556+00 and 561+50 to 589+00.

R) *There are no cross sections available for these stations.*

Q) Are there any cross sections available for the new Ditch Ledge area from station 545+00 to 579+04?

R) *There are no cross sections for this area.*

Q) Will Route 46 be posted in the spring of 2005 or will the postings be lifted for construction.

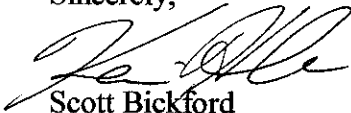
R) *The roads will be posted as usual.*

Q) When will the rock that will be used for rip rap and stone ditch be available and will it be sized.

R) *The rock will be available some time after Labor Day of 2004. There will be 8,000 cy truck measure of rock meeting the gradation between 6"-18" and 2,000 cy truck measure meeting the gradation between 24"-36".*

Consider these changes and information prior to submitting your bid on June 30, 2004.

Sincerely,

 FOR

Scott Bickford

Contracts & Specifications Engineer

MAINE DEPARTMENT OF TRANSPORTATION

PAGE: 1

SCHEDULE OF ITEMS

DATE: 040628

REVISED:

CONTRACT ID: 011003.30

PROJECT(S): 011003.30

STP-1132(900)X

STP-1187(600)X

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
SECTION 0001 HIGHWAY ITEMS						
0010	201.11 CLEARING	2.530				
	AC					
0020	201.23 REMOVING SINGLE TREE TOP ONLY	34.000				
	EA					
0030	201.24 REMOVING STUMP	34.000				
	EA					
0040	202.127 REMOVE EXISTING BITUMINOUS PAVEMENT	LUMP	LUMP			
0050	202.203 PAVEMENT BUTT JOINTS	537.000				
	SY					
0060	203.2001 COMMON EXCAVATION - PLAN QUANTITY	4850.000				
	CY					
0070	203.21 ROCK EXCAVATION	79.000				
	CY					
0080	203.2312 HEALTH AND SAFETY PLAN	LUMP	LUMP			
0090	206.0619 STRUCTURAL ROCK EXCAVATION - DRAINAGE AND MINOR STRUCTURES - BELOW GRADE	26.610				
	CY					

MAINE DEPARTMENT OF TRANSPORTATION

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LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	211.30 DITCH EXCAVATION	18517.000				
		LF				
0110	211.40 NEW DITCH EXCAVATION	525.000				
		LF				
0120	211.41 NEW DITCH EXCAVATION - LEDGE	2624.000				
		LF				
0130	304.10 AGGREGATE SUBBASE COURSE - GRAVEL	9645.000				
		CY				
0140	309.35 FULL DEPTH RECYCLED PAVEMENT W/ FOAM ASPHALT 5 INCH DEPTH	52661.000				
		SY				
0150	403.209 HOT MIX ASPHALT 9.5 MM HMA (SIDEWALKS, DRIVES, INCIDENT ALS)	126.000				
		T				
0160	403.210 HOT MIX ASPHALT 9.5 MM HMA	5635.760				
		T				
0170	403.211 HOT MIX ASPHALT (SHIMMING)	189.710				
		T				
0180	403.213 HOT MIX ASPHALT 12.5 MM HMA BASE	6578.840				
		T				
0190	409.15 BITUMINOUS TACK COAT APPLIED	2979.900				
		G				

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			DOLLARS	CTS	DOLLARS	CTS
0200	461.210 MAINTENANCE SURFACE TREATMENT - 9.5 MM	T 4410.000				
0210	603.16 15 INCH CULVERT PIPE OPTION I	LF 1406.000				
0220	603.161 15 INCH CORRUGATED METAL PIPE	LF 34.000				
0230	603.169 15 INCH CULVERT PIPE OPTION III	LF 90.000				
0240	603.17 18 INCH CULVERT PIPE OPTION I	LF 260.000				
0250	603.171 18 INCH CORRUGATED METAL PIPE	LF 14.000				
0260	603.179 18 INCH CULVERT PIPE OPTION III	LF 530.000				
0270	603.19 24 INCH CULVERT PIPE OPTION I	LF 100.000				
0280	603.191 24 INCH CORRUGATED METAL PIPE	LF 28.000				
0290	603.199 24 INCH CULVERT PIPE OPTION III	LF 115.000				

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			DOLLARS	CTS	DOLLARS	CTS
0300	603.201 30 INCH CORRUGATED METAL PIPE	8.000 LF				
0310	603.239 48 INCH CULVERT PIPE OPTION III	125.000 LF				
0320	603.259 60 INCH CULVERT PIPE OPTION III	60.000 LF				
0330	603.275 72 INCH REINFORCED CONCRETE PIPE CLASS III	60.000 LF				
0340	604.243 CATCH BASIN TYPE F3-C	5.000 EA				
0350	606.23 GUARDRAIL TYPE 3C - SINGLE RAIL	7904.000 LF				
0360	606.231 GUARDRAIL TYPE 3C - 15 FOOT RADIUS AND LESS	675.000 LF				
0370	606.232 GUARDRAIL TYPE 3C - OVER 15 FOOT RADIUS	25.000 LF				
0380	606.259 ANCHORAGE ASSEMBLY	6.000 EA				
0390	606.265 TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	28.000 EA				

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			DOLLARS	CTS	DOLLARS	CTS
0400	606.35 GUARDRAIL DELINEATOR POST	EA 66.000				
0410	606.79 GUARDRAIL 350 FLARED TERMINAL	EA 6.000				
0420	609.31 CURB TYPE 3	LF 2347.000				
0430	610.08 PLAIN RIPRAP	CY 7210.000				
0440	610.18 STONE DITCH PROTECTION	CY 390.000				
0450	613.319 EROSION CONTROL BLANKET	SY 9628.900				
0460	618.1401 SEEDING METHOD NUMBER 2 - PLAN QUANTITY	UN 510.000				
0470	619.1201 MULCH - PLAN QUANTITY	UN 510.000				
0480	620.58 EROSION CONTROL GEOTEXTILE	SY 15765.000				
0490	627.76 TEMPORARY PVMT. MARK LINE, W OR YELLOW	LUMP	LUMP			

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			DOLLARS	CTS	DOLLARS	CTS
0500	629.05 HAND LABOR, STRAIGHT TIME	20.000 HR				
0510	631.12 ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	45.000 HR				
0520	631.172 TRUCK - LARGE (INCLUDING OPERATOR)	85.000 HR				
0530	631.18 CHAIN SAW RENTAL (INCLUDING OPERATOR)	15.000 HR				
0540	631.32 CULVERT CLEANER (INCLUDING OPERATOR)	5.000 HR				
0550	639.19 FIELD OFFICE TYPE B	1.000 EA				
0560	652.38 FLAGGER	3850.000 HR				
0570	652.39 WORK ZONE TRAFFIC CONTROL	LUMP	LUMP			
0580	656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LUMP	LUMP			
0590	659.10 MOBILIZATION	LUMP	LUMP			

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			DOLLARS	CTS	DOLLARS	CTS
0600	660.21 ON-THE-JOB TRAINING (BID)	1000.000 HR				
	SECTION 0001 TOTAL					
	TOTAL BID					

CONTRACT AGREEMENT, OFFER & AWARD

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

_____ a corporation or other legal entity organized under the laws of the State of Maine, with its principal place of business located at _____

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

A. The Work.

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **011003.30, PIN 11003.30; STP-1132(900)X, PIN 11329.00; STP-1187(600)X, PIN 11876.00, for the Hot Mix Asphalt Overlay, Full Depth Recycled Pavement with Foamed Asphalt, Maintenance Surface Treatment, Variable and Full Depth Gravel Areas, Drainage and Safety Improvements in the towns of Bucksport, Orland and Dedham, County of Hancock, Maine.** The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

B. Time.

The Contractor agrees to complete all Work, except warranty work, on or before **September 2, 2005** Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the State of Maine Department of Transportation Standard Specifications, Revision of December 2002.

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SPECIAL PROVISION
SECTION 502
ANNULAR SPACE GROUTING

Description This work shall consist of providing and placing non-shrink grout as described below. The annular space (void between the host and liner pipes) shall be completely grouted to support the liner and provide long-term stability. The Contractor shall provide testing of the materials and methods for compliance with the following requirements. Prior to any work the Contractor shall furnish an acceptable plan for performing and testing the grouting.

Preparation After slip liner installation but prior to grouting, bulk heading of the ends and venting shall be constructed.

After bulk heading of the ends and venting, test the integrity of the installed liner pipe and constructed bulkheads for any leaks.

Planned Vents The Contractor shall submit shop drawings or indicate in the installation plan the proposed number and location of vents relative to pipe diameter and stiffness for the grouting operations.

Materials The grout material shall consist of portland cement (portland cement and fly ash) and/or additives as described in the following Subsections of Division 700 - Materials:

Portland Cement	701.01
Water	701.02
Air-Entraining Admixtures	701.03
Fine Aggregate	703.01
Fly Ash	701.10 Type F or C
Chemical Admixtures	701.04
Accelerating Admixtures	AASHTO M-194 Type "C"
Foaming Agents	ASTM C 869

(a) Compressive Strength The grout shall have a minimum penetration resistance of 700 kPa [102 psi] in 24 hours when tested in accordance with ASTM C403 and a minimum compressive strength of 3500 kPa [508 psi] in 28 days when tested in accordance with ASTM C495 or C109.

(b) Performance Requirements The Contractor shall submit the proposed grout mix, methods, plans and criteria of the grouting operations. The grouting system shall have sufficient gauges,

monitoring devices and tests to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.

(c) Mix Designs One or more mixes shall be developed to completely fill the annular space based on the following requirements:

- (1) Size of annular void
- (2) Void (size) of the surrounding soil
- (3) Absence or presence of groundwater
- (4) Sufficient strength and durability to prevent movement of the liner pipe, and
- (5) Provide adequate retardation.

Qualifications The Contractor shall demonstrate to the Resident its worker's capabilities of filling the annular space and performing their work in conformance with the Plans and the Specifications.

Grouting Equipment The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each stage in a single operation. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as dictated by field conditions any time during the grouting operation.

Injection Procedure and Pressure The Contractor shall use a low pump pressure and have no delays in placing of the Annular Space Grout. An annular space grout technical representative shall be on site while placing fill.

The gauged pumping pressure shall not exceed the liner pipe Manufacturer's approved recommendations. Pumping equipment shall be of a size sufficient to inject grout at velocity and pressure relative to the size of the annular space. Gauges to monitor grout pressure shall be attached immediately adjacent to each injection port. The gauge shall conform to an accuracy of not more than one-half percent error over the full range of the gauge. The range of the gauge shall be not more than 100 percent greater than the design grout pressure. Pressure gauges shall be instrument oil filled and attached to a saddle type diaphragm seal (gauge saver) to prevent slogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40 Grade 2A.

Test Section The Contractor shall be required to perform a test on each type of grout and grout system proposed to be used.

Submittals and Required Calculations The Contractor shall submit the following to the Resident for his review and approval at least 30 working days prior to the start of the grouting operation:

- 1) The proposed grouting mix
- 2) The proposed densities and viscosities
- 3) Initial set time of the grout
- 4) The proposed grouting method
- 5) The maximum of injection pressures
- 6) The 24-hour and 28 day compressive strengths
- 7) Proposed grout stage volumes
- 8) Bulkhead designs
- 9) Buoyant force calculations
- 10) Flow control
- 11) Provisions for service connections
- 12) Pressure gauge certification
- 13) Vent location plans
- 14) Certification that grouting plan conforms with all provisions, cautions and restrictions or the liner manufacturer.

These shall be submitted as a complete package for a single or sample section only. The Contractor shall notify the Resident of any changes to be made in grouting.

Method of Measurement No separate payment will be made but will be considered incidental to Item #603.259

Basis of Payment No separate payment will be made but will be considered incidental to Item #603.259 and will include furnishing and placing flowable fill including all forms, berms, bulkheads, pumping, and incidentals necessary.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
502.571 Annular Space Grouting	Lump Sum

SPECIAL PROVISION
SECTION 603
CULVERT SLIPLINING
(Plastic Pipe)

Description: This work shall consist of inserting a new pipe into an existing culvert and constructing seals at the ends of the new pipe and filling the voids between the new and existing culvert pipe with grout in accordance with the plans and specifications. The Contractor has the following options for the new pipe to be inserted into the existing pipe:

- 1) (54"-60") diameter Weholite plastic pipe
The largest size pipe that can be installed inside of the existing pipe and allow for a minimum 1" grout to be placed around the entire circumference of the pipe.
- 2) Total Length = 60' with a square end (no miter)

General Construction Requirements: Handle and assemble all elements of the structure in accordance with the manufacturer's instructions, except as modified herein, on the plans or as ordered by the Resident in writing. The Contractor shall submit fabrication details including assembly drawings, pipe insertion methods, internal joint coupling and bracing details, to the Resident for approval. The Resident will be allowed a minimum of 10 working days to review the Contractor's submittal.

The Contractor will dewater, inspect, and clean the existing culvert. The Contractor shall provide strutting and bracing to insure the stability of the existing culvert during this operation.

The Contractor may push or pull or use a combination of both to get the new pipe sections into place. When pushing is used, the jacking force must be uniformly distributed around the perimeter of the liner pipe to avoid the possibility of damaging the pipe due to a concentrated jacking load. The Contractor shall utilize skids in the existing culvert, to facilitate placement of the pipe sections. The displacement between adjacent pipe ends shall not exceed 13 mm [1/2 in].

The pipe sections shall be braced against the existing culvert so that the new pipe shall remain in place during grouting operations. The Contractor is responsible for assuring that the pipe does not **"Float"** during the grouting operation. A minimum 25 mm [1 in] of grout shall be between the new and existing culverts. Bracing material shall not significantly impede grout flow into the annular space between the culverts.

Seals: Place plywood or material of equivalent strength, in the annular space at each end of the culvert, to retain grout. Seals may be left in place providing they do not interfere with bank protection and/or fish passage.

OPTION #2 - 2286 mm (90") DIAMETER WEHOLITE PLASTIC PIPE

Material

Pipe and Fittings - Reference Specifications:

ASTM F-714; Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on outside diameter

CSA B 137.1: Polyethylene Pipe, Tubing and Fittings for Cold Water Pressure Services.

ASTM D-3350: Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.

ASTM D-3035: Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR). Based on Controlled Outside diameter

ISO 9002: Model for Quality Assurance in Production and Installation.

AWWA C906: Standard for Polyethylene (PE) Pressure Pipe and Fittings 4 inch through 63 inch for Water Distribution.

- 1) The pipe shall be manufactured from polyethylene resin compound with a minimum cell classification of PE 345464C in accordance with ASTM D3350. This material shall have a long term hydrostatic strength of 1600 psi when tested and analyzed by ASTM D2837, and shall be a Plastic Pipe Institute (PPI) listed compound.
- 2) The raw material shall contain a minimum of 2%, well dispersed, carbon black. Additives, which can be conclusively proven not to be detrimental to the pipe may also be used, provided the pipe produces meets the requirements of this standard.
- 3) The pipe shall contain no recycled compound except that generated in the manufacturer's own plant from resin of the same specification and from the same raw material supplier.
- 4) Compliance with the requirements of this paragraph shall be certified in writing by the pipe supplier.

- 5) Manufacturer's Quality System shall be certified by an appropriate independent body to meet the requirements of the ISO 9002 Quality Management Program.

Pipe Design

The pipe shall be designed as a stand alone direct burial pipe. The pipe shall be able to support the earth and live load by itself with no additional capacity from the existing pipe or the annular space grout.

1. The pipe shall be designed in accordance with the relationships of the ISO-modified formula (see ASTM F714).
2. The design pressure rating P shall be derived using the ISO modified formula and shall be its normal working pressuring in pounds per square inch at temperatures up to 73°F.
3. The Hydrostatic Design Stress shall be 800 psi for PE 3408 materials.
4. The pipe dimensions shall be as specified in manufacturer's literature.

Marking:

The following shall be continuously indent printed on the pipe or spaced at intervals not exceeding 1.5 m (5 feet).

1. Name and/or trademark of the pipe manufacturer.
2. Nominal pipe size
3. Dimension Ratio
4. The letters PE followed by the polyethylene grade per ASTM D3350, followed by the Hydrostatic Design basis in 100's of psi e.g. PE 3408.
5. Manufacturing Standard Reference e.g. ASTM F 714
6. A production code from which the date and place of manufacture can be determined.

Joining Methods:

The polyethylene pipe should be joined by extrusion welding in accordance with the manufacturer's recommendations.

The pipe manufacturer shall provide an outline of recommended field quality control procedures to be performed on the polyethylene system components.

Construction Requirements: The sections of Weholite pipe shall be assembled and joined together prior to insertion into the existing culvert. Assembly shall be accomplished above ground, either at the job-site or at a remote location. The pipe shall be welded on both the interior surface and exterior surface

The polyethylene liner pipe may be inserted into the existing pipe with a power winch and steel cable connected to the end of the pipe in an appropriate manner. The pipe manufacturer's recommendations should be followed regarding the most appropriate method of attaching the cable to the liner pipe. If required, a special pulling head may be attached to the end of the liner pipe to facilitate easy connection of the pulling cable.

Basis of Payment: Payment for culvert slip-lining will be paid for at the contract lump sum price. Culvert slip-lining includes full compensation for furnishing all labor, materials, equipment necessary to manufacture, assemble and install the pipe or Weholite Plastic Pipe complete and in place, including: but not limited to dewatering, cleaning, inspecting, strutting, bracing, skids, concrete grout filler, joint bands, seals, installing grout nipples, plugs, fittings, hardware, and damaged pipe repair. Grout used to fill the annular space and backfill voids will be paid for under Special Provision Section 502, Annular Space Grouting.

Payment will be made under:

<u>Pay Item</u>	<u>Pay Unit</u>
603.259 60" Option III Culvert	60 L.F.